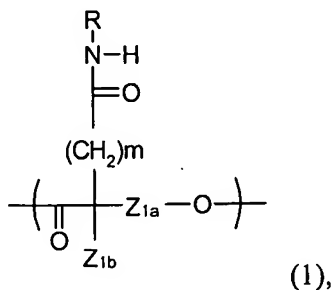


C. Remarks

The claims are 1-11, with claims 1, 3, and 8-11 being independent. Claims 2, 3, 5, and 8-11 have been withdrawn from consideration as being directed to non-elected subject matter. Claims 1, 4, 6, and 7 have been amended solely as to form. Non-elected claim 2, which depends from claim 1 and is subject to rejoinder upon allowance of claim 1, has also been amended solely as to form. No new matter has been added. Reconsideration of the present claims is expressly requested.

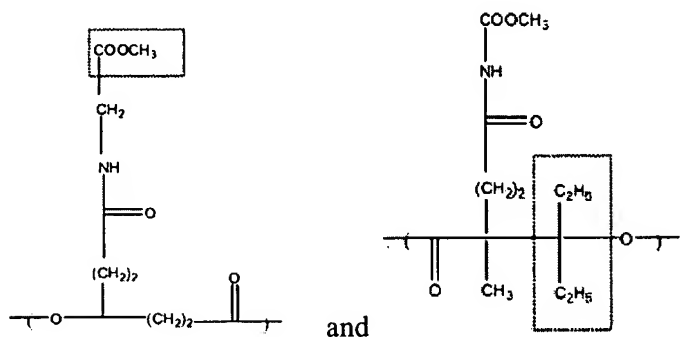
Claims 1, 4, 6, and 7 stand rejected under 35 U.S.C. 103(a) as being allegedly obvious from U.S. Patent No. 6,083,729 (Martin) in view of EP 1 336 635 A1 (Kenmoku). The grounds of rejection are respectfully traversed.

The presently claimed invention, in pertinent part, is related to a polyhydroxyalkanoate (PHA) comprising one or more units of a chemical formula (1) within a molecule:



where R is $-\text{A}_1-\text{SO}_2\text{R}_1$.

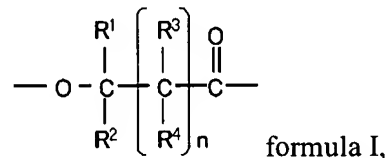
Martin is directed to methods for isolating PHAs from plants. The Examiner alleged that claim 4 in this reference discloses species of the following structures:



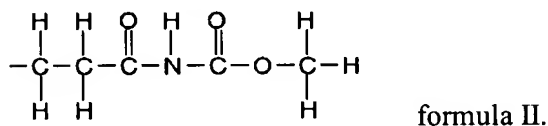
and that it would have been obvious to replace the COOCH₃ group in these formulas with a sulfonyl unit based on the disclosure in Kenmoku, particularly at paragraph [0020] and page 8, because the sulfonyl unit as claimed is allegedly taught to provide improved melt processability. Applicants respectfully disagree.

Initially, Applicants respectfully submit that Martin does not disclose or suggest the above-mentioned structures identified in the Office Action. Claim 4, to which the Examiner referred for supporting these structures, discloses that a PHA structure, which is separated from plant biomass, has one or more units represented by formula $-OCR^1R^2(CR^3R^4)_nCO-$. In this formula, n is 0 or an integer and R^1 , R^2 , R^3 and R^4 each are independently selected from the group consisting of hydrocarbon radicals, halo- and hydroxy-substituted radicals, hydroxy radicals, halogen radicals, nitrogen-substituted radicals, oxygen-substituted radicals, and hydrogen atoms.

In essence, the generic structure in claim 4 of Martin encompasses thousands of possible compounds, yet the Examiner's selections correspond to



where, n is 1, R¹ and R² are H, and one of R³ and R⁴ is CH₃ and the other is formula II:



Alternatively, in formula I, n is 1, R¹ and R² are C₂H₅, and one of R³ and R⁴ is CH₃ and the other is formula II.

Such selections are clearly not disclosed in claim 4 of Martin. In fact, Applicants submit that they do not appear to be within the scope of claim 4.

As stated in the M.P.E.P., “[t]he key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious.” M.P.E.P. § 2142. The Examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. *Id.* M.P.E.P. 2142 also highlights that the Supreme Court in *KSR International Co. v. Teleflex Inc.*, 82 U.S.P.Q.2d 1385, 1396 (2007) noted that the analysis supporting a rejection under 35 U.S.C. §103 should be made explicit. The Federal Circuit has stated that “rejections on obviousness cannot be

sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 78 U.S.P.Q.2d 1329, 1336 (Fed. Cir. 2006); *see KSR*, 82 U.S.P.Q.2d at 1396 (quoting the Federal Circuit statement with approval).

The Examiner concluded that claim 4 in Martin discloses the above-reproduced species. No reasons are provided as to how or why the generic structure in this claim discloses such species. Therefore, Applicants respectfully submit that the Examiner has not met the required legal burden of showing why a skilled artisan would select R¹, R², R³ and R⁴ as alleged in the Office Action.

Applicants respectfully submit that Martin does not disclose or suggest the above-recited structures. As a matter of law, “[a] reference must be considered not only for what it expressly teaches, but for what it fairly suggests.” *In re Baird*, 29 U.S.P.Q.2d (BNA) 1550, 1552 (Fed. Cir. 1994); *In re Bruckel*, 201 U.S.P.Q. (BNA) 67, 70 (C.C.P.A. 1979). A disclosure of a vast number of compounds does not automatically render a claim obvious. *See In re Baird* at 1552.

This is exactly the situation in the present case. Martin provides a myriad of generic pieces for a jigsaw puzzle without teaching or suggesting the picture or which specific pieces are necessary to complete it. “[T]o arrive at the claimed subject matter, it [would be] necessary to select . . . values for variable substituents to interpolate into a generic structural formula to arrive at a specific compound.” *Ex Parte A*, 17 U.S.P.Q.2d

(BNA) 1716, 1718 (Bd. Pat. App. & Inter. 1990) (footnote omitted). This is not sufficient to show obviousness.

At most, Martin refers to PHAs having known units, such as 3-hydroxy butyric acid, 3-hydroxy valeric acid, 3-hydroxy hexanoic acid, 3-hydroxy heptanoic acid, 3-hydroxy octanoic acid, 3-hydroxy nonanoic acid, 3-hydroxy decanoic acid, 4-hydroxy butyric acid, and trans-2-butenic acid (crotonic acid). There is no guidance or reasons for one skilled in the art to select the substituents to arrive at the structures reproduced above.

Furthermore, claim 4 in Martin recites a method for isolating a PHA from a plant biomass source. Therefore, the disclosure of the PHA structure is strictly linked to a plant source. The Examiner has not shown, nor is Martin understood to disclose, any plant source, which would be capable of providing the structures as shown above.

Kenmoku cannot cure the deficiencies of Martin. Regardless of whether Kenmoku suggest the use of a sulfone group to improve melt processability, there is no structure disclosed or suggested by Martin as recited in the Office Action to modify, as discussed above.

In conclusion, Applicants respectfully submit that Martin and Kenmoku, whether considered separately or in combination, fail to disclose or suggest all of the presently claimed elements. Thus, the outstanding rejection should be withdrawn and the claims should be allowed.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

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